

ABSTRACT OF THE INVENTION

The present invention relates to compositions comprising semi-crystalline
5 β -1-4-N-acetylglucosamine polymers (p-GlcNac) and methods utilizing such polymers
modulation of vascular structure and/or function. The compositions and methods disclosed
are useful for stimulating, in a p-GlcNac concentration-dependent manner, endothelin-1
release, vasoconstriction, and/or reduction in blood flow out of a breached vessel, as well as
for contributing to or effecting cessation of bleeding. The methods of the present invention
10 comprise topical administration of materials comprising semi-crystalline p-GlcNac
polymers that are free of proteins, and substantially free of single amino acids as well as
other organic and inorganic contaminants, and whose constituent monosaccharide sugars
are attached in a β -1-4 conformation.

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